Ballast Water Treatment – Performance Standards and Technology, Reporting Forms, and Sampling

Jonathan Thompson, California State Lands Commission
Christopher Brown California State Lands Commission

- **Current Requirements**
- **Performance Standards and Technology**
- **Sampling**

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- **Current Requirements**
  - **Reporting Forms**
- Performance Standards and Technology
- Sampling

Current Requirements

Options to meet current requirements:

- Retain all ballast water (no discharge).
- Exchange ballast water
- Discharge ballast water at the same location where the ballast water originated.
- Discharge to an approved reception facility (none currently exist).
- Under extraordinary circumstances, perform a ballast water exchange within an area agreed to in advance by the Commission.
- **Use an alternative, environmentally sound, Commission or US Coast Guard-approved method of management.**

Use an alternative, environmentally sound, Commission or US Coast Guard-approved method of management.

- Ballast Water Treatment Technology
  - **Reporting requirements for the use of Ballast Water Treatment Technology**

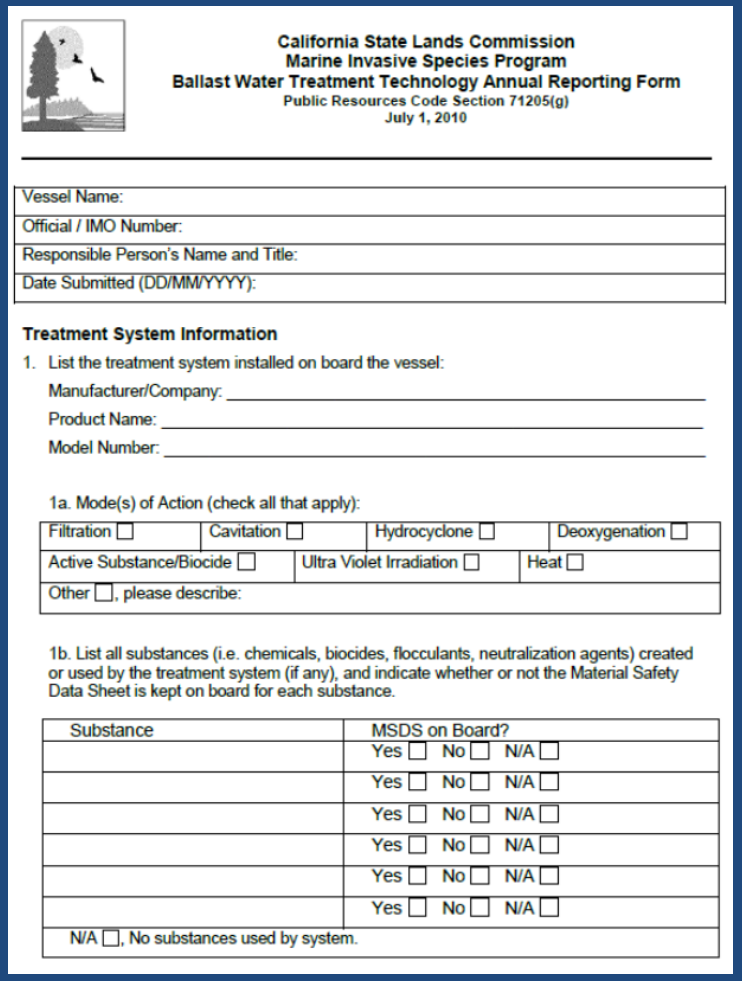
Ballast Water Treatment Technology

- **Is a Ballast Water Treatment System Installed?**

AND

- **Was the Ballast Water Treatment System used?**

Ballast Water Treatment Technology Annual Reporting Form



California State Lands Commission
Marine Invasive Species Program
Ballast Water Treatment Technology Annual Reporting Form
Public Resources Code Section 71205(g)
July 1, 2010

Vessel Name:
Official / IMO Number:
Responsible Person's Name and Title:
Date Submitted (DD/MM/YYYY):

Treatment System Information

1. List the treatment system installed on board the vessel:

Manufacturer/Company: _____

Product Name: _____

Model Number: _____

1a. Mode(s) of Action (check all that apply):

Filtration ☐	Cavitation ☐	Hydrocyclone ☐	Deoxygenation ☐
Active Substance/Biocide ☐	Ultra Violet Irradiation ☐	Heat ☐	
Other ☐, please describe:			

1b. List all substances (i.e. chemicals, biocides, flocculants, neutralization agents) created or used by the treatment system (if any), and indicate whether or not the Material Safety Data Sheet is kept on board for each substance.

Substance	MSDS on Board?
	Yes ☐ No ☐ N/A ☐
	Yes ☐ No ☐ N/A ☐
	Yes ☐ No ☐ N/A ☐
	Yes ☐ No ☐ N/A ☐
	Yes ☐ No ☐ N/A ☐
	Yes ☐ No ☐ N/A ☐
N/A ☐, No substances used by system.	

Ballast Water Treatment Technology Annual Reporting Form

- No Ballast Water Treatment System Installed = Do not submit the form
- Ballast Water Treatment System Installed = Submit the form only when a Ballast Water Treatment System is used.
- Submit once annually
- Do not submit the form for each arrival

Ballast Water Treatment Technology Supplemental Reporting Form

California State Lands Commission
Ballast Water Treatment Supplemental Reporting Form
Public Resources Code Section 71205(g)
July 1, 2010
ALL VESSELS MUST ALSO SUBMIT BALLAST WATER REPORTING FORM

IS THIS AN AMENDED REPORTING FORM? Yes ☐ No ☐

Vessel Information	**Voyage Information**
Vessel Name:	Arrival Port:
Official/IMO Number:	Arrival Date (DD/MM/YYYY):

Ballast Water Treatment

1. Did the treatment system experience any malfunction that affected the treatment of ballast water to be discharged at this arrival port?

   Yes ☐ , please provide the following information:

   Date of malfunction (DD/MM/YYYY): _____

   Explain the malfunction: _____

   If applicable, how was the situation resolved? _____

   No ☐

2. Ballast Water Treatment History. Provide information for all ballast tanks that will be discharged at arrival port. Enter additional tanks on page 2. One tank per line. If none, go to Question #3.

Tanks/ Holds	**BW Source**			**BW Discharge**			**BW Treatment**		
	Date (DD/MM/YY)	Port or Lat-Long	Volume (Units)	Date (DD/MM/YY)	Port or Lat-Long	Volume (Units)	Date of 1st treatment (DD/MM/YY)	Date 2nd treatment (if applicable) (DD/MM/YY)	Volume Ballast Treated (Units)
			m3			m3			m3
			m3			m3			m3
			m3			m3			m3
			m3			m3			m3
Ballast Water Tank Codes: Forepeak = FP, Aftpeak = AP, Double Bottom = DB, Wing = WT, Topside = TS, Cargo Hold = CH, Other = O									

3. Responsible Officer's Name and Title: _____

Ballast Water Treatment Technology Supplemental Reporting Form

- No Ballast Water Treatment System installed =
  Do not submit the form

- Ballast Water Treatment System installed =
  Submit this form upon departure for **every arrival** if:
  - A Ballast Water Treatment System is installed

  and

  - Ballast water is discharged and the installed Ballast Water Treatment System is used to meet the requirements

- Submit this form **in addition** to the Ballast Water Reporting Form

Ballast Water Treatment – Performance Standards and Technology, Reporting Forms, and Sampling

- Current Requirements
- **Performance Standards and Technology**
  - **Performance Standards**
  - **Technology Report**
  - **Current Legislation**
- Sampling

Performance Standards and Technology

- **Performance Standards**
- 2014 Technology Report
- Current Legislation

Performance Standards

Organism Size Class	California	IMO Regulation D-2/ U.S. Federal
Organisms greater than 50 µm in minimum dimension	No detectable living organisms	< 10 organisms/m^3
Organisms 10 – 50 µm in minimum dimension	< 0.01 living organisms/ml	< 10 organisms/ml
Living organisms less than 10 µm in minimum dimension	< 10^3 bacteria/100 ml < 10^4 viruses/100 ml	
Escherichia coli	< 126 cfu/100 ml	< 250 cfu/100 ml
Intestinal enterococci	< 33 cfu/100 ml	< 100 cfu/100 ml
Toxicogenic *Vibrio cholerae* (O1 & O139)	< 1cfu/100 ml or < 1cfu/gram wet weight zoological samples	< 1 cfu/100 ml or < 1 cfu/gram wet weight zooplankton samples

California Implementation Schedule

Ballast Water Capacity of Vessel	**Standards apply to new vessels in this size class constructed on or after**	**Standards apply to all other vessels in this size class beginning on**
< 1500 metric tons	**January 1, 2016**	**January 1, 2018**
1500 – 5000 metric tons	**January 1, 2016**	**January 1, 2016**
> 5000 metric tons	**January 1, 2016**	**January 1, 2018**

Performance Standards and Technology

- Existing Standards
- **2014 Technology Report**
- Current Legislation

2014 Ballast Water Treatment Technology Assessment Report

- No shipboard treatment systems available to meet California performance standards
  - Data does not demonstrate that systems can meet all of CA standards
- No shore-based ballast water treatment facilities for NIS available in U.S.
  - Commission funded study of feasibility of shore-based ballast water treatment in California
  - Expected Completion in 2016
- Recommended delay and collection of more data

Performance Standards and Technology

- Existing Standards
- 2014 Technology Report
- **Proposed California Legislation**

Proposed Changes to the MISP in California Assembly Bill 1312

- Standards remain the same
- Interim Standards Implementation date = January 1, 2020
  - Vessels newly constructed

  OR
  - First Scheduled Dry Docking
- Final Standards Implementation Date = January 1, 2030

Proposed Changes in California Assembly Bill 1312

- Extend date for application for use of experimental treatment systems
  - 5 year equivalency to standards
  - Application Deadline = January 1, 2020.
- Additional items
  - Biofouling sampling and enforcement authority
  - Clean-up provisions

Ballast Water Treatment – Performance Standards and Technology, Reporting Forms, and Sampling

- Current Requirements
- Performance Standards and Technology
- **Sampling**

Sampling

- Lack of data on performance of operational shipboard treatment systems
- Gathering data
- Not a compliance activity
- Partnering opportunities
  - MISP recently acquired 4 indicative sampling tools to test
  - Seeking vessels to assist with research

Collecting Data – Sampling Types

- Types of Testing
  - Indicative Testing (red light/green light)
    - Allow vessels/ship owners to self-check for compliance
    - Detection of gross exceedance
    - IMO recommends using as a first step in assessing compliance
  - Full-scale Testing
    - Accurate counts of organisms

Collecting Data – Sampling Types

Hand Held Indicative Testing

Benefits:

- Fast
- Relatively Simple
- Can be used by existing inspection personnel

Hurdles:

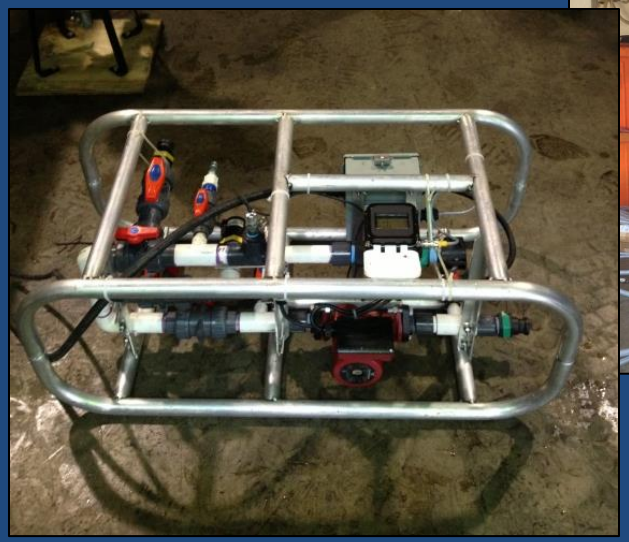
- Confidence in numeric correlations
- Definition of “gross exceedance”
- Gray areas – “Medium risk” or “yellow light”

Collecting Data – Sampling Types

Full Scale Testing

Benefits:

- Accurate counts of discharge organisms
- Enforceable



Hurdles:

- Logistics
- Time Consuming
- Expensive
- Requires additional personnel with special training

Sampling – How can you help?

- **Is a Ballast Water Treatment System Installed?**

AND

- **Do you plan to use the Ballast Water Treatment System?**

- **If yes to both questions, can we board and collect samples?**

Questions?